

ER507191436US

UNITED STATES PATENT APPLICATION

of

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for

APPARATUS FOR TYING FISHING LINE TO FISHING TACKLE
AND METHODS FOR USE

BACKGROUND

1. The Field of the Invention

[0001] The present invention relates to an apparatus used to tie fishing line to fishing tackle, more particularly and without limitation, hooks, lures, spinners, flies, leaders, and swivels are the fishing tackle appropriate for use with the apparatus. The present invention also relates to the methods of using the line-tying apparatus to tie a limited variety of fishing knots.

2. Brief Description of the Art

[0002] A wide variety of knots have been developed and used in sport fishing to secure various forms of fishing tackle to fishing lines. Numerous devices have also been developed to aid a fisherman in tying these knots. Most devices tend to be knot-specific in that they are designed for, or used to form certain, specific knots. Virtually all of these devices can be divided into two categories: devices used to secure the hook, and devices structurally designed to facilitate the tying of the desired knot.

[0003] Devices used to secure the hook come in a wide variety of shapes and sizes. One characteristic common to these devices is that the general purpose is to secure or suspend the hook, or fishing tackle, while the fishing line is being manipulated to produce the desired knot. One advantage to these devices is that a safe and convenient position for the hook, maintainable by the fisherman, is provided as the desired knot is tied. The hook is essentially stationary while the fishing line is being manipulated. Another advantage is that these devices tend to be less knot-specific in that they can be used to tie a wider variety of knots. One disadvantage can be illustrated when trying to use these

devices. The fishing line can be difficult to manipulate in the manner necessary to tie the desired knot properly, especially if only one hand is available to the fisherman.

[0004] Other devices have specific structural features designed to guide or facilitate the tying of a specific knot. These devices may have grooves or similar points on the device where the fishing line is guided or temporarily secured while the knot is formed. These devices may also have projections or structures similar to fork tines allowing the fishing line to be wrapped around the projections as the knot is formed. One advantage to devices structurally designed to manipulate the fishing during the tying of a knot is that the fishing line is generally maintained in the desired position during the procedure of tying the knot. One disadvantage to devices using specific structural features is that they can be relatively complex in order to produce the desired knot.

[0005] Certain devices may provide a combination of these features, containing a portion where the hook, or fishing tackle is suspended, and structural features to facilitate the tying of a certain knot. While the combination may provide advantages related to a seemingly more complete device, these devices tend to be the most complex, which can be a disadvantage relating to cost and ease of use. Also, the hook may be positioned in close proximity to the structural features designed to produce the knot. This can result in painful injuries to the fisherman while attempting to tie the desired knot.

[0006] Numerous means have been developed to attempt to eliminate the need for any of the devices previously discussed. As will be shown, these means tend to be limited and relatively expensive. They also limit the fisherman to certain configurations of fishing tackle.

[0007] Certain hooks are composed of separate pieces. The pieces may be assembled and disassembled. While the hook is disassembled, the fishing line may be threaded on and wrapped around certain pieces, then assembled in a manner that secures the hook to the fishing line. In this manner, the hook becomes the device assisting the tying of the knot.

[0008] Fishing hooks are available with a certain length of fishing line already attached to the fishing hook. The fishing line is approximately six to twelve inches in length. At one end of the fishing line a fishing hook is attached. At the other end, the fishing line is tied into a loop. The loop is present so the hook may be easily attached to a second fishing line having a clip attached at its end.

SUMMARY OF THE INVENTION

[0009] The current invention is embodied in the structure of the apparatus as well as its designated use. The design and structure of the apparatus is novel, and developed for an intended, specific use. The structure is deceptively simple. The gross structure of the apparatus is a rod with a device for securing the hook, or fishing tackle. This structure is integral to the method of use for the apparatus. The simple structure is what allows the desired knot to be tied quickly, easily and efficiently. While the hook is secured, the apparatus may be manipulated to produce the desired knot.

[0010] As most devices designed to aid in the development of tying a knot, this apparatus is relatively knot-specific. The current apparatus is designed to aid in the formation of the cinch knot and the improved cinch knot.

[0011] The apparatus allows a cinch knot or an improved cinch knot to be tied in a drastically reduced amount of time and effort. Generally, a cinch knot requires at least

sixty seconds or more to form properly. With the aid of the present apparatus, a cinch knot may be tied in approximately five to twenty seconds, after very limited instruction. Also, persons relatively unfamiliar with fishing or even young children can be taught to use the apparatus effectively and efficiently in a short amount of time.

[0012] The apparatus also provides a safe procedure for tying the desired knot because the hook is suspended away from the hands while the knot is being formed. The apparatus allows the hook and the fishing line to be manipulated with a minimum of contact by the user. The procedure for using the apparatus is very simple: the hook is secured to one end of the apparatus, a fishing line is threaded through the eye of the hook, the apparatus is twirled an appropriate number of times, and the end of the fishing line is secured within the newly formed knot.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Figure 1 is a perspective view of the tackle tying apparatus.

[0014] Figure 2A is a perspective view of the distal end of the apparatus with a cap, which cap has a lanyard aperture.

[0015] Figure 2B is a perspective view of the distal end of the apparatus with a hook remover and a lanyard aperture.

[0016] Figure 2C is a perspective view of the distal end of the apparatus with a dowel and an attached cutting device.

[0017] Figure 3A is an exploded view of the proximate end of the apparatus showing attachment of the securing device and a cutting blade embedded in the apparatus.

[0018] Figure 3B is a perspective view of the proximate end of the apparatus showing a magnifying glass attached to the proximate end of the apparatus.

[0019] Figure 3C is a perspective view of the proximate end of the apparatus showing a magnet as the securing device and a light embedded in the proximate end of the apparatus.

[0020] Figures 4-7 are plan views of the procedure for using the apparatus.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] It will be readily understood that the following detailed description of the embodiments of the tackle tying apparatus 10, and the steps for using the tackle tying apparatus 10, is not intended to limit the scope of the invention, as claimed, but is merely representative of the presently preferred embodiments of the invention.

[0022] The structure of the apparatus 10 is very simple. As shown in Figure 1, the apparatus 10 has two primary components: a rod 20 and a securing device 30.

[0023] The rod 20 is a cylindrical structure providing the user means to hold and manipulate the apparatus 10 during use. The rod 20 has a proximate end 22 and a distal end 24. Generally, the rod 20 will have a circular cross-section, however, other forms are possible, such as without limitation, cross-sections that are triangular, square, hexagonal, or octagonal.

[0024] The rod 20 may be approximately four to eighteen inches in length 26 (approximately ten to forty-five centimeters), and preferably about eight inches in length 26 (about twenty centimeters). The diameter 28 of the rod 20 may be approximately one-quarter of an inch to an inch and a half (approximately five millimeters to four centimeters), and preferably about one-half of an inch (about one centimeter).

[0025] The rod 20 may be composed of any appropriate material, including without limitation, plastic, molded plastic, wood, stainless steel, rubber, hardened rubber, or

fiberglass. As will be recognized by those skilled in the art, the material used to construct the rod 20 may be any material capable of providing the desired rigidity and strength.

[0026] The securing device 30 is generally a clamping or pinching structure providing the means necessary to secure the hook or other fishing tackle. The securing device 30 may be any device providing suitable support and having the ability to secure the hook or fishing tackle, including without limitation, an alligator clip, a paper clip, a clothes pin, or even a magnet 35.

[0027] As will be recognized by those skilled in the art, the securing device 30 may have various dimensions depending on the type of securing device 30 used in a given apparatus 10. For example and not by way of limitation, an alligator clip may have clamping handles 32 and jaws 34 approximately one-quarter inch to an inch and a half in length (approximately five millimeters to four centimeters), and preferably about one-half inch in length (about one centimeter). If a magnet 35 were used as the securing device 30, the magnet 35 may be relatively small and still achieve the desired result. A bar magnet 35 may be approximately one-eighth of an inch to an inch in length (approximately three millimeters to two centimeters).

[0028] The securing device 30 may be composed of any appropriate material, including without limitation, plastic, molded plastic, wood, stainless steel, magnetized steel, rubber, hardened rubber, or fiberglass. As will be recognized by those skilled in the art, the material used to construct the securing device 30 may be any material capable of providing the desired rigidity and strength, as well as capable of being formed into an appropriate shape.

[0029] The construction of the apparatus 10 is understandably simple. The securing device 30 is attached to the proximate end 22 of the rod 20 by any suitable means. For example and not by way of limitation, as shown in Figure 3A, the proximate end 22 of the rod 20 may have a slit 36 and the securing device 30 may have a tab 38. The tab 38 may be inserted into the slit 36 and glued in place. As another example, the tab 38 may be a structure where the surface of the tab 38 may lie against the proximate end 22, thereby allowing the tab 38 to be glued or welded to the proximate end 22 of the rod 20. As will be appreciated by those skilled in the art, a wide variety of means and materials may be utilized to attach the securing device 30 to the proximate end 22 of the rod 20.

[0030] The rod may be hollow, thereby providing a storage space 40 within the rod 20. The distal end 24 of the rod 20 may have a variety of attachments threadedly attached to the distal end 24. A cap 42 or a hook remover 44 may be threadedly attached to the distal end 24 of the rod 20.

[0031] The cap 42 is a cover structure, generally cylindrical, that closes the opening in the distal end 24 of the rod 20 formed by the storage space 40. The cap 42 is generally the same diameter as the diameter 28 of the rod 20. The cap 42 may be attached to the distal end 24 by a variety of means. The cap 42 may have a diameter similar to the diameter 28 of the rod 20 allowing the cap 42 to be inserted into the opening in the distal end 24 of the rod 20, similar to a cork in a wine bottle. This may be described as a removable attachment. As shown in Figure 2A, the cap 42 may also have male threads 48, or inserting threads, that allow the cap 42 to be screwed into or onto the distal end 24 of the rod 20, which distal end 24 has female threads 46, or receiving threads, allowing the threaded attachment.

[0032] The cap 42 may be made of the same material as the rod 20, or a different material. The dimensions of the cap 42 may vary, but generally the cap 42 will have a diameter similar to the diameter 28 of the rod 20 and a length of approximately one inch (approximately two centimeters).

1. Accessories

[0033] As shown in Figure 2B, the cap may also be in the form of a hook remover 44. The hook remover 44 has a conical head 50 defined by a conical base 52 and a conical apex 54. The surface of the conical head 50 has longitudinal grooves 56 evenly spaced along the surface of the conical head 50. The conical head 50 also has a longitudinal slot 58, or aperture, which slot 58 is a deep groove proceeding from the conical apex 54 to the approximate center of the conical base 52. The slot 58 is deep enough to allow the shank of a hook being removed to be inserted into the hook remover 44. The shank of the hook is inserted into the longitudinal slot 58 and the hook remover 44 is pushed downward toward the loop of the hook and twisted. The point of the hook will become seated in one of the longitudinal grooves 56 when the hook is removed.

[0034] The hook remover 44 may be attached to the distal end 24 by the same variety of means used to attach a cap 42. The hook remover 44 may have a diameter similar to the diameter 28 of the rod 20 may allow the hook remover 44 to be inserted into the opening in the distal end 24 of the rod 20, similar to a cork in a wine bottle. This may be described as a removable attachment. The hook remover 44 may also have male threads 48, or inserting threads, that allow the hook remover 44 to be screwed into or onto the distal end 24 of the rod 20, which distal end 24 has female threads 46, or receiving threads, allowing the threaded attachment.

[0035] The hook remover 44 may be made of the same material as the rod 20, or a different material. The dimensions of the hook remover 44 may vary, but generally the base of the conical portion of the hook remover 44 may have a diameter of approximately one-half an inch to an inch and a half (approximately one centimeter to four centimeters). The length of the hook remover 44 may be approximately one to three inches (approximately two to eight centimeters).

[0036] As shown in Figure 2C, the cap 42 may be in the form of a dowel 62 attached to the distal end 24 of the rod 20. The dowel 62 may be attached to the cap 42 using glue or other appropriate means, or otherwise integrated into the structure of the cap 42. The dowel 62 is a cylinder approximately two to eight inches in length (approximately five to twenty centimeters), and approximately one-quarter of an inch to one inch in diameter (approximately five millimeters to three centimeters). The dowel 62 is usually made of a material relatively softer than the rod 20. For example but not by way of limitation, the dowel 62 may be made of wood, plastic, or rubber.

[0037] The cap 42 or the hook remover 44 or the dowel 62 may have a lanyard aperture 60. The lanyard aperture 60 is an opening or hole in an appropriate place on the cap 42 (as shown in Figure 2A), hook remover 44, or dowel allowing a lanyard to be threaded through the lanyard aperture 60. With a lanyard, the apparatus 10 may be suspended or hung somewhere convenient for the user.

[0038] The lanyard aperture 60 may be attached to the cap 42, hook remover 44, or dowel 62 with a lanyard swivel. This will allow any lanyard attached to the cap 42, hook remover 44, or dowel 62 to swivel while the apparatus 10 is used to tie the desired knot.

[0039] Some lanyards include a swivel. The lanyard may be attached to a variety of devices, and the lanyard has a swivel as part of the structure. This type of lanyard may be attached to the apparatus 10 and accomplish the same goal as having an apparatus 10 with a lanyard swivel.

[0040] The apparatus 10 may include a cutting blade 64. As shown in Figure 3A, the cutting blade 64 may be embedded in the rod 20 near the proximate end 22. The cutting blade 64 may be a razor blade, or other appropriate cutting surface, approximately one-quarter of an inch to one inch in length (approximately five millimeters to three centimeters). The cutting blade 64 may be used to cut fishing line when desired by the user. When embedded, the cutting surface of the cutting blade 64 may be below the surface of the rod 20 to prevent injuries or unintended cuttings. The cutting blade 64 may be embedded in a V-shaped notch in the rod 20.

[0041] The cap 42 (or hook remover 44 or dowel 62) may have a cutting device 65 attached in a manner allowing the cutting device 65 to be stored in the storage space 40 while the cap 42 is threadably attached to the rod 20. When the cap 42 is removed, the cutting device may be used to cut or remove excess fishing line remaining after the desired knot is tied. As shown in Figure 2C, the cutting device 65 may be, for example but not by way of limitation, a small pair of scissors, a small set of nail clippers, or a small pair of nippers.

[0042] As shown in Figure 3B, the apparatus 10 may include a magnifying glass 66 attached to the rod 20 near the proximate end 22. The magnifying glass 66 may be attached to the rod 20 using glue or other appropriate means. The magnifying glass 66 may have a diameter of approximately one-half of an inch to two inches (approximately

one to five centimeters). The magnifying glass 66 may also be designed to rotate, or flip, from a stowed position to an engaged position. The purpose of the magnifying glass 66 is to aid the user in threading a fishing line through the eye of a hook.

[0044] As shown in Figure 3C, the apparatus 10 may also include a light 68 embedded in the proximate end 22 or the rod 20. The light 68 may be an LED light that is activated by pressure applied by the user on the surface of the rod 20. The light may also be an LED light that is activated by a button, or toggle switch, on the outer surface of the rod 20. The dimensions of the light 68, and the associated working mechanisms such as wiring and a battery, must fit inside the diameter 28 of the rod 20, and still allow space for the attachment of the securing device 30.

2. Methods of Use

[0045] The methods of use to be described are intended for the tackle tying apparatus 10 described herein, or any form of the tackle tying apparatus 10. The following methods require the use of one form of the tackle tying apparatus 10 described herein.

[0046] The tackle tying apparatus 10 is generally used to tie a fishing line to a hook 70, however, the tackle tying apparatus 10 may be used to tie fishing line to various forms of fishing tackle, for example and not by way of limitation, lures, spinners, flies, hooks, leaders, and swivels. One important aspect of using the tackle tying apparatus 10 is the ability to position the chosen piece of fishing tackle such that the eye, or loop where the fishing line is going to be threaded, may be positioned proximate the securing device 30.

[0047] The tackle tying apparatus 10 may be used to tie a limited number of knots. The tackle tying apparatus 10 may be used to tie a cinch knot or an improved cinch knot.

[0048] As described previously, the tackle tying apparatus 10 may be used to tie fishing line to a variety of fishing tackle. For example and not by way of limitation, the methods of use will be described using a hook 70. As will be recognized by those skilled in the art, the methods described will not be altered after the fishing tackle has been positioned appropriately.

[0049] The hook 70 may be described as having a hook curve 72, a hook shank 74, and a hook eye 76. The hook curve 72 is secured by the securing device 30 such that the hook shank 74 points approximately co-linear with the rod 20. For example and not by way of limitation, using the alligator clip as the securing device 30, the clamping handles 32 are depressed by the user, thereby opening the jaws 34 of the securing device 30. The hook curve 72 is secured, or clamped, within the jaws 34 of the securing device 30. The hook shank 74 is positioned approximately co-linear with the rod 20.

[0050] The fishing line 80 may now be tied to the hook 70. The line end 82 is threaded through the hook eye 76. As shown in Figure 4, a section of fishing line 80, approximately one to eight inches (approximately two to twenty centimeters) of fishing line 80, is pulled through the hook eye 76. The user may now hold the line end 82 near and approximately co-linear to the fishing line 80 that has not been pulled through the hook eye 76.

[0051] As shown in Figures 5 and 6, the user may now twist the tackle tying apparatus 10 approximately two to fifteen complete turns of the apparatus 10, and preferably about six complete turns of the apparatus 10. This action will produce at least an initial loop 84 and a final loop 88 in the fishing line 80. Preferably, one to eight intermediate loops 86 will be produced, although more intermediate loops 86 may be produced at certain times.

[0052] The user may now thread the line end 82 through the initial loop 84, and pull the line end 82 to tighten the knot 90 thus formed, as shown in Figure 7. These actions complete the formation of a cinch knot.

[0053] The user may produce an improved cinch knot with a slight alteration in procedure. In order to produce an improved cinch knot, after the user has threaded the line end 82 through the initial loop 84, the line end 82 is threaded through the final loop 88. The user may now pull the line end 82 to tighten the knot thus formed. These actions complete the formation of an improved cinch knot.

[0054] What is claimed and desired to be secured by United States letters patent is: